

Table B-6. Chemical Sources of Secondary and Micronutrients

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|---------------------------|--|---|-------------|
| Boron Sources | Material | Chemical Formula | % B |
| | Borax | Na ₂ B ₄ O ₇ •10H ₂ O | 11 |
| | Boric acid | H ₃ BO ₃ | 17 |
| | Fert. borate-46 | Na ₂ B ₄ O ₇ •5H ₂ O | 14 |
| | Fert. Borate-65 | Na ₂ B ₄ O ₇ | 20 |
| | Sodium pentaborate | Na ₂ B ₁₀ O ₁₆ •10H ₂ O | 18 |
| | Solubor | Na ₂ B ₁₀ O ₁₆ •10H ₂ O +Na ₂ B ₄ O ₇ •5H ₂ O | 20 |
| Calcium Sources | Material | Chemical Formula | % Ca |
| | Calcitic lime | CaCO ₃ | 31.7 |
| | Calcium nitrate | Ca(NO ₃) ₂ | 19.4 |
| | Dolomitic lime | CaCO ₃ +MgCO ₃ | 21.5 |
| | Gypsum | CaSO ₄ •2H ₂ O | 22.5 |
| | Hydrated lime | Ca(OH) ₂ | 46.1 |
| | Superphosphate, normal | Ca(H ₂ PO ₄) ₂ | 20.4 |
| Superphosphate, triple | Ca(H ₂ PO ₄) ₂ | 13.6 | |
| Copper Sources | Material | Chemical Formula | % Cu |
| | Copper ammonium phosphate | Cu(NH ₄)PO ₄ •H ₂ O | 32 |
| | Copper chelates | Na ₂ CuEDTA | 13 |
| | | NaCuHEDTA | 9 |
| Copper sulfate | CuSO ₄ •5H ₂ O | 25 | |
| Iron Sources | Material | Chemical Formula | % Fe |
| | Ferrous ammonium phosphate | Fe(NH ₄)PO ₄ •H ₂ O | 29 |
| | Ferrous sulfate | FeSO ₄ •7H ₂ O | 19 |
| | Iron ammonium polyphosphate | Fe(NH ₄)HP ₂ O ₇ | 22 |
| | Iron chelates | NaFeEDTA | 5 to 14 |
| | | NaFeDTPA | 10 |
| NaFeEDDHA | | 6 | |
| Magnesium Sources | Material | Chemical Formula | % Mg |
| | Dolomitic lime | MgCO ₃ +CaCO ₃ | 11.4 |
| | Epsom salt | MgSO ₄ •7H ₂ O | 9.6 |
| | Magnesia | MgO | 55.0 |
| | Potassium-Mg sulfate | K ₂ SO ₄ •2MgSO ₄ | 11.2 |
| Manganese Sources | Material | Chemical Formula | % Mn |
| | Manganese chelate | MnEDTA | 12 |
| | Manganese oxide | MnO | 41 to 68 |
| | Manganese sulfate | MnSO ₄ •4H ₂ O | 26 to 28 |
| Molybdenum Sources | Material | Chemical Formula | % Mo |
| | Ammonium molybdate | (NH ₄) ₆ Mo ₇ O ₂₄ •2H ₂ O | 54 |
| | Molybdenum trioxide | MoO ₃ | 66 |
| | Sodium molybdate | Na ₂ MoO ₄ •2H ₂ O | 39 |
| Sulfur Sources | Material | Chemical Formula | % S |
| | Ammonium sulfate | (NH ₄) ₂ SO ₄ | 24 |
| | Ammonium thiosulfate | (NH ₄) ₂ S ₂ O ₃ | 26 |
| | Gypsum | CaSO ₄ •2H ₂ O | 16.8 |
| | Potassium-Mg-sulfate | K ₂ SO ₄ •2MgSO ₄ | 22.0 |
| | Potassium thiosulfate | K ₂ S ₂ O ₃ | 17 |
| | Sulfur, elemental | S | 32 to 100 |
| | Material | Chemical Formula | % Zn |
| Zinc Sources | Zinc carbonate | ZnCO ₃ | 52 |
| | Zinc chelates | Na ₂ ZnEDTA | 14 |
| | | NaZnHEDTA | 9 |
| | Gypsum | CaSO ₄ •2H ₂ O | 16.8 |
| | Zinc oxide | ZnO | 78 |
| Zinc sulfate | ZnSO ₄ •H ₂ O | 35 | |